

Fast, Cheap, and Easy Pollution Prevention Plans for Small Sites

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The Department of Defense (DoD) has numerous small sites with simple processes and few waste streams. Because these sites also tend to have minimal environmental resources, pollution prevention plans (which are not a regulatory requirement) have been postponed. The following paper provides a useful methodology for completing pollution prevention plans for groups of small sites as well as some specific recommendations that will improve the process.

CDM Federal Programs Corporation (CDM Federal) recently prepared pollution prevention plans for the Army's 63rd Reserve Support Center (RSC). A plan was written for each of 12 small Army Reserve sites in California and Arizona. The sites had common processes, primarily related to vehicle maintenance. The work was accomplished efficiently and economically using a simple four-step procedure.

Initially, CDM Federal conducted a field survey of the sites to collect general site information and data on each process, including:

- Facility name
- Primary point of contact (POC) name and job title
- Secondary POC name and job title
- Phone number(s)

The multiple points of contact allowed for easy access when follow-up information was needed. Generally, the points of contact were the facility manager and the hazardous waste/environmental coordinator. For each processes, the following data was collected:

- Process description
- Equipment type
- Equipment number
- Production unit
- Production rate (per year)
- Number of people using the process
- Labor hours
- Level of personal protective equipment required

- Permit information
- Materials used (including manufacturer, quantity, and shelf life)
- Wastes generated (including RCRA code, quantity, and disposal method)

A process diagram was sketched based on the operator's description of the process. Also collected were any current pollution prevention measures and any known potential pollution prevention measures. This is important, because the operators and other shop personnel know the process best and so are more likely to know which changes will or will not work.

For the second step, CDM Federal researched potential measures to reduce pollution. Because pollution prevention guidance is based on process type or waste streams, these two pieces of information became the focus of the search. During the field survey, common processes across sites had been determined so they could be categorized. This simplified research. Even with limited background in pollution prevention, it is possible to produce recommended measures for most processes using the many resources available through DoD, local, state, and federal agencies. (A partial list of resources available to the public appears at the end of this paper.)

The third step was the development of a model pollution prevention plan. For this plan to be effective, CDM Federal identified one site that best represented all 12 facilities. The model site selected was one of the largest sites and had the most processes that were common to the whole group. Use of the model plan prevented duplication of effort in many areas such as cost analysis, process diagrams, and introductory/background text. The pollution prevention plan was written for the site based on Army guidance (Pollution Prevention Opportunity Assessment Protocol dated 15 October 1994).

Finally, pollution prevention plans were written for the additional sites based on the model plan. Because so many of the sites were similar, the process allowed for a quick production time for each of the additional sites. By assigning multiple personnel to the surveying and plan writing for the 11 additional sites, CDM Federal was able to compress the schedule even more. The initial combined survey and the model plan provided consistency for the project. To reduce costs and expand staff knowledge, a less experienced technical employee can be used to write the additional plans. By reading the worksheets and following the model, they can learn about pollution prevention while easily making the conversion to a new site. A more experienced worker can then add information needed for new processes.

In addition to the above methodology, some guidelines were used to create more useful documents for the Army. For example, it is important to customize recommendations to the type of work done and the organizational structure. Because these were small maintenance shops (as is the case with many military shops), CDM Federal recommended primarily administrative and low-cost technical pollution prevention measures. These included simple methods such as ordering in smaller quantities, centralizing hazardous material, and preventing spills. For most small maintenance shops, high-tech, expensive equipment and extensive tracking of materials and waste are not practical. The return on investment is too small for these types of projects. The Army Reserve is organized in such a way that one environmental support staff serves multiple sites. Certain measures take advantage of this organizational structure by using centralized programs. Examples include implementing a single training and awareness program and promoting the sharing of pollution prevention ideas among facilities. Each of these can be initiated and facilitated by the central office with a small amount of effort, but they can have large impacts on pollution prevention at many sites.

The final plans should be simple and straightforward, avoiding environmental jargon and lengthy explanations. On-site personnel should be able to read and use the plans without excessive assistance from environmental personnel. Large, detailed documents not only cost more, but also deter shop personnel from reading them. By engaging these workers, implementation of the recommended measures becomes much easier.

CDM Federal completed all 12 pollution prevention plans for the 63rd RSC in six months using only two employees and the customer was pleased with the results. By following these guidelines, other organizations can generate useful pollution prevention plans quickly, easily, and at a low cost for small sites.

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Air Force CEE

Provides information on pollution prevention projects implemented by the Air Force

Web site: <http://www.ascee.brooks.af.mil.pro-act>

CalePA ACCESS

Electronic bulletin board system which provides copies of full text or executive summaries of pollution prevention documents

Bulletin Board: (916) 322-5041

Center for Environmental Research Information

EPA organizations that provides technical documents at no charge

Phone: (513) 569-7562

Fax: (513) 569-7566

Coating Alternatives Guide (CAGE)

Electronic guide developed by Research Triangle Institute for identifying alternatives for metal parts coating based on process information

Phone: (919) 541-6916

E-mail: cagemaster@clean.rti.org

Web site: <http://clean.rti.org/cage>

DTSC Pollution Prevention and Technology Development

Department of DTSC delegated with responsibility to oversee pollution prevention issues; manages a technology clearinghouse which provides reports at no cost and videos for a fee

Phone: (916) 322-3670

Fax: (916) 327-4494

EnviroSense

EPA=s electronic guide to pollution prevention, compliance, and enforcement

Web site: <http://es.inel.gov>

Joint Service Pollution Prevention Technical Library

A comprehensive resource for information on technologies and management practices to prevent pollution at military installations; contents of library: Joint Service Pollution Prevention Opportunity Handbook, Navy Pollution Prevention Equipment Book, DLA Environmental Products Catalog; web site allows user to read, search, print, or download information; ideas are submitted by fax or email

Fax: (808) 471-5704

E-mail: lhill@nfesc.navy.mil

Web site: (through NFESC=s home page)

<http://enviro.nfesc.navy.mil/p2library>

(through DENIX)

<http://denix.cecer.army.mil/denix/public/library/library.html>

National Center for Environmental Publications and Information

Provides pollution prevention documents at no charge

Phone: (800) 490-9198

Fax: (513) 489-8695

National Technical Information Service

Provides pollution prevention documents for a fee

Phone: (703) 487-4780 (to identify a title)

Pollution Prevention Information Clearinghouse

Distribution center for EPA documents and fact sheets dealing with source reduction and pollution prevention; also provides references and referrals for pollution prevention questions

Phone: (202) 260-1023

Fax: (202) 260-4659

Email: ppic@epamail.epa.gov

Web site: <http://www.epa.gov/opptintr/p2home>

RLIBY (Research Library)

Database of more than 12,000 pollution prevention articles, pamphlets and other documents maintained by Waste Reduction Resource Center; additional resources also available through the web listed below

Phone: (800) 476-8686

Web site: <http://www.p2pays.org>

Solvent Alternative Guide (SAGE)

Electronic guide developed by Research Triangle Institute for identifying the most suitable cleaning option based on process information

Phone: (919) 541-8031

E-mail: sagemaster@clean.rti.org

Web site: <http://clean.rti.org>